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NEWSLETTER

of the

Hawaiian Botanical Society

J. F. ROCK

MEMORIAL EDITION

c/o DEPARTMENT OF BOTANY
UNIVERSITY OF HAWAII
HONOLULU 14, HAWAII

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Volume II, Number 1
January 1963

J. F. ROCK, 1884-1962 [1/]

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Alvin K. Chock [2/]

Almost sixty years ago a young Austrian left his homeland to see the world and regain his health. His trip around the world was to be postponed for a decade, for he made a prolonged stopover in Hawaii. During his lifetime he made his home in Hawaii and China. This energetic, versatile, and legendary scientist became recognized throughout the world first as a botanist, then as plant collector, naturalist, and explorer. His explorations and his remarkable linguistic ability led him to become a geographer, orientalist, philologist, and anthropologist. His contributions were legion and they enlightened, increased, and diffused mankind's knowledge about the flora of the Hawaiian Islands and the natural history of Western China and Eastern Tibet.

Dr. Joseph Francis Charles Rock (Josef Franz Karl Rock) was born to Franz and Francisca (Hofer) Rock on January 13, 1884, in Vienna, Austria. His mother died when he was only six years old and his older sister and father cared for him. His family felt that his destiny lay in the Church and directed his early training toward the priesthood. His own inclinations, however, did not point in this direction. Even as a young child he developed a lively curiosity about strange lands and their strange tongues, triggered by a visit to Egypt with his father at age 10. In Egypt he learned to speak Arabic so fluently that at age 16 he taught the language at the University. At home he taught himself Chinese, studying it by candle light after the household had retired. This conflict between his father's and sister's plan for his life and his own interests in the world about him led him to leave home as soon as his formal education at the Vienna Schoten Gymnasium and Vienna University were completed.

He wandered about Europe and was in Antwerp when he decided to spend the summer in England. However, he missed the channel steamer and on impulse bought passage for the United States, leaving Antwerp on board the SS Zeeland and arriving in New York on September 9, 1905. After a short stay in New York, his health forced him to seek a warmer and drier climate and he went to Texas where he attended the

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University to gain greater proficiency in English. This set the linguistic pattern for the rest of his life, for from that time on all of his writing was done in English. Forsaking the land of his birth, he became a naturalized citizen in May 1913. His health did not improve appreciably and he was advised to to go Arizona. However, he had always had a longing to see the tropics, so against the doctor's advice that he had but three months to live unless he sought dry desert air, he set off for Hawaii. An interesting fact is that Dr. William Hillebrand, who preceded him as resident botanist, was also afflicted with tuberculosis. Like his predecessor, Rock recovered in Hawaii's salubrious climate and regained his health.

His first position upon his arrival in Honolulu in 1907 was as one of the three full-time teachers at Mills School. The following year the school became known as Mid-Pacific Institute. In September 1908 Rock resigned for reasons of health in order to be out-of-doors, and was placed on official leave of absence by the school. That same month he went on a botany trip with Charles N. Forbes, Assistant in Botany at the B. P. Bishop Museum, who had arrived in June. Rock showed him a tree which he had seen two months before. In Forbes' first publication of new Hawaiian plants, he named that tree Euphorbia Rockii in honor of Rock.

In October 1908 he joined the Division of Forestry, Board of Commissioners of Agriculture and Forestry, Territory of Hawaii (now Forestry Division, Department of Land and Natural Resources, State of Hawaii), first as Botanical Collector, and later as Botanical Assistant. His assignment as the first and only Botanist of the Board consisted of collecting seeds of rare Hawaiian trees and shrubs for exchange purposes and of establishing a herbarium. His botanical knowledge was largely self-taught, but his tremendous capability made the task easy. He applied himself by studying the available botanical literature and quickly became thoroughly familiar with the native flora by spending most of his time in the field on the different islands pursuing his studies. His interest in botany was not limited to the woody plants. He made a complete fern collection and at Waikiki Beach collected limu (algae), utilizing what was perhaps the first glass bottomed boat in Hawaii which Alexander Hume Ford built for him. The herbarium he developed from his own Hawaiian plant collections and from exchanges with mainland U. S. and European herbaria. Such specialists as O. Beccari, E. B. Copeland, C. de Candolle, A. Heimerl, F. L. Lewton, U. Martelli, L. Radlkofer, and A. Zahlbruckner, collaborated with him in the identification of Hawaiian plants and published many new species from his collections. The forestry and botany exhibit which he prepared for the Alaska-Yukon-Pacific Exposition in 1909 won a gold medal. He wrote many reports in the Board's Biennial Reports and The Hawaiian Forester and Agriculturist. His early scientific publications comprise the entire Botanical Bulletin series of the Board.

On September 1, 1911, he was transferred to the College of Hawaii as Botanist since the Board of Agriculture & Forestry's funds for botanical purposes were limited. Arrangements for the transfer of the herbarium to the College on an indefinite loan basis were completed the following summer when the College's first permanent building was constructed. Despite the changeover, he continued his relationship with the Board in an honorary capacity as Consulting Botanist until 1921. At the four year old College, which had that year changed its name from the College of Agriculture and Mechanic Arts to the College of Hawaii, Rock was placed in charge of the herbarium.

In June 1913 with a Bishop Museum Expedition he made a trip to Palmyra Island which produced the flora of Palmyra. During the 1913-14 school year he made a trip around the world at his own expense, but his trip was not a selfish one. He collected seeds and plants for the reforestation of Mauna Kea and Haleakala for the Board of Agriculture and Forestry; bamboos from the Himalayan area for planting in the Panama Canal Zone at the request of the Bureau of Plant Industry, U. S. Department of Agriculture (which association was to continue in a Collaborator status until 1944); and examined Hawaiian herbarium specimens in European and American institutions for

the College. While at the Botanisches Museum at Berlin-Dahlem, Rock obtained permission to take 1,000 sheets of fragments and duplicates from the type collections of William Hillebrand, M. D., which were made during his residence in the islands in 1851-71. This was fortunate since the museum's herbarium was destroyed on March 1, 1943, during World War II. Portions of the type specimens of Hawaiian plants described by Dr. Asa Gray were also obtained from the Gray Herbarium at Harvard University, and photographs of Hawaiian specimens were made at the Harvard, Berlin, Vienna, and Paris museums. He developed the herbarium further by securing Hawaiian plant collections and specimens from Australia, Ceylon, Cuba, Central and South America , Java, Mauritius, New Zealand, and the Philippines through exchanges with other institutions. He subsequently made several other plant introduction trips, all at his own expense: in 1916 to the Philippines, Java, and Singapore; in 1917 to southern California; and in 1919 to Siam, Malaya, and Java.

After 1914 he was listed in the college's catalog as the only instructor of the Systematic Botany Division's courses: "Botany 10. Systematic Botany for Advanced Students" (first and second semesters, three credits) and "Botany 11. Advanced Research Work in Phaenogamic Botany" (credits arranged). In 1919 he was officially appointed Professor of Systematic Botany. One of his former students, Edwin H. Bryan, Jr. (now Curator of Collections, and Manager, Pacific Scientific Information Center, B. P. Bishop Museum), who was then a part-time Assistant in Entomology at the Museum, recalls that he was the only student in Rock's systematic botany class in 1919-20. Rock would lecture informally in Latin or English, and Bryan transcribed these notes. Bryan was secretary, laboratory assistant, and mounter for several hours each day during these informal "class" sessions, and assisted in the descriptions and bibliographic data for Pritchardia, Plantago, and other plant groups. Rock's memory was phenomenal---there were piles of books and specimens all over his small work room since there were few shelves and cabinets, but he knew where everything was in spite of the apparent disorder. Before Rock left Hawaii, he and Bryan arranged and cataloged the herbarium.

In 1914 Rock was appointed to the Buildings and Grounds Faculty Committee, and placed in charge of the plantings for the twenty acres alloted for the campus as a botanical garden. According to the President's Report for 1915-17, "In order properly to develop these plantings we have prepared a permanent plan for placing the buildings and drives so that no valuable plants need be planted in situations which will later be needed for other purposes." By 1918 Rock had planted 500 different species on the campus. These plants were from Asia, Indonesia, America, and Hawaii. All of the native plants were grown from seeds, and many of them were from Rock's type collections of new species.

During his residence in Hawaii, this thorough and dynamic plant collector explored all the major islands, staying at each for weeks and months. He took with him his botanical equipment and a view camera with glass plates. He enlisted local residents as collecting assistants and as subscribers to publish his books. His botanizing resulted in the publication, by patronage, of The Indigenous Trees of the Hawaiian Islands in 1913. In the preface he apologizes for his construction of sentences, since English was not his native language, and thereby committed what is perhaps the only grammatical error. Another tome followed four years later, The Ornamental Trees of Hawaii. Both volumes were profusely illustrated with his photographs. He made a list of plants located in Mrs. Mary E. Foster's estate in Nuuanu Valley, Honolulu. This was significant because most of the plants were introduced by Hillebrand whose home this once was. The site later became Foster Botanical Garden under the jurisdiction of the Department of Parks and Recreation, City and County of Honolulu.

Dr. Rock was a member of the Advisory Committee, Experiment Station of the Hawaiian Sugar Planters' Association. Because of the need for water to irrigate the sugar cane fields, he cooperated with them on water development since the watersheds are contained in the forest reserves. They in turn published his treatise, The Leguminous Plants of Hawaii.

Regarding his affiliation with the Bernice P. Bishop Museum during these years, both Rock and the Museum several times contemplated a more permanent relationship although none was consummated until 1955. There was, nevertheless, beginning in 1908 a cooperative relationship between the two. In 1908 Forbes and Rock collected in several localities on Oahu. In 1913 Dr. C. Montague Cooke, Jr., and Rock went to Palmyra Island to collect shells and plants for 16 days. The museum published two of his monographs in the Memoirs series. The first, on the Lobelioids in 1919, was one in which the Director, Dr. W. T. Brigham had expressed a keen interest 11 years before. On the day the monograph was issued, Rock told the museum that it was his hope "that every family would eventually be worked up in a similar style, the whole forming an Illustrated Flora of the Hawaiian Islands." Two years later a monograph on Pritchardia was published with Odoardo Beccari as co-author. As in his earlier works, both of these illustrated the various taxa. Shortly after Rock left Hawaii he donated to the museum his photographs and the manuscript of Hillebrand's Flora of the Hawaiian Islands (1888) which he had obtained in Washington, D. C., from Hillebrand's son.

In 1920, at the time of the transition of the College of Hawaii to University status, a reciprocity agreement between the University and the Museum was made and, by legislation, the Museum became the Territory's depository for systematic collections. The museum was to maintain the collections with the University assisting in the actual collecting. In 1922 the herbarium of 28,000 specimens which Rock had amassed for the herbaria of the Board of Agriculture and Forestry and the University of Hawaii was transferred to the Bishop Museum, which at that time had only 53,000 specimens. In 1941 the remainder of the Board's herbarium of 529 specimens, of which 315 were Rock's, and in 1958 the Hawaiian Sugar Planters" Association Herbarium of 3,000 specimens (about 10% having been collected by Rock) were given to the Museum. Rock himself was to deposit the specimens he collected after 1953 in the Museum.

On May 25, 1920, Rock left Hawaii to spend the next three decades in active exploration and research in Asia. During this period he was to collect thousands of botanical, ornithological, and zoological specimens; to introduce thousands of Asiatic plants to the United States; to map and photograph heretofore unknown regions; to translate volumes of native literature; to do research on the peoples, culture, folklore, religion, and geography of western China and eastern Tibet memoralized through innumerable books, articles in scientific journals, and in the National Geographic Magazine.

Rock had always had a desire to travel in the Orient and the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, U. S. Department of Agriculture first provided this opportunity for him. In 1920 he was sent to Indo-China, Siam, Burma, and India to find seeds of the chaulmoogra (Hydnocarpus Kurzii (King) Warberg). In 1918 Dr. A. L. Dean, President of the College of Hawaii, had prepared constituents of the chaulmoogra oil in large quantities for clinical use and established them as the first useable cure for Hansen's disease. Due to the success of Rock's exploration, a plantation of 2,980 trees of this and related species were planted in the Waiahole Forest Reserve on Oahu in 1921-22.

In 1922 Rock took up his residence in Li-chiang, the heart of the Na-khi country. His interest in these aboriginal people and their unique culture led him to make, a decade later, his life work the study of the Na-khi tribe of northwest Yun-nan Province, China. Using Li-chiang as a base, Rock explored and collected plants on the nearby Snow Range to the 17,000 foot level, in the Kingdom of Mu-li, and along

the Burma-China border. By 1923 he was far into Yün-nan Province in southwest China, and the National Geographic Society took over the sponsorship of his explorations for more than a year. He continued his work in the mountain ranges in the vicinity of the Mekong and Yangtze Rivers, searching for new plant material. During this period he collected over 80,000 plant specimens, as well as seeds of many Asiatic ornamentals as yet not introduced into the Western World. He also collected 1,600 skins of birds which were presented to the U. S. National Museum.

In 1924 Rock returned to Washington, D. C., visiting the Arnold Arboretum that summer. Professor C. S. Sargent, Director, expressed his interest in sending a botanist to collect seeds of woody plants from two little known mountain ranges (Amnye Ma-chhen and Richthofen) near the Yellow River. As a result of this conference, Rock was selected to do this under the sponsorship of Harvard University. In addition to collecting for the Arnold Arboretum, the Museum of Comparative Zoology directed the collecting of ornithological specimens from northwest China and Tibet. Rock returned to Yün-nan Province and secured the help of his former Na-khi assistants. In spite of bouts with flu and bronchitis, and with his expedition repeatedly threatened with brigand attacks, the Arboretum received the first packet of seeds one year after he left San Francisco. More were sent later. These were distributed to all principal botanical and horticultural institutions in the northern parts of North America and Europe. Rock explored the Yangtze River country, along the Kansu-Szechuan border, the Tebbu region in southwestern Kansu, and the Koko Nor Lake at 10,700 ft. elevation in northeast Tibet. He searched for plant material in the Richthofen Range, only to discover that it was almost bare of vegetation. Nevertheless, he collected as much seed as he could. In later years it was discovered that the conifer seeds which he collected proved to be important in the reforestation of areas with a severe climate. He spent the winter of 1925-26 in the Lamasary of Cho-ni on the Kansu Steppes. There he observed the Butter Festival and the Mystery Plays of this almost unknown tribe. In the spring he made a reconnaisance of the Amnye Ma-chhen Range, hurried because of hostile Golock tribesmen, followed by several months exploring the Tebbu country, an area rich in wild mountain scenery and beautiful flora where no Caucasian had ever before set foot. He wintered in Cho-ni again. In the spring of 1927 he left in a southwesterly direction to Kuan-hsien, crossed the plain to Chengtu, and took the overland route to Chungking before proceeding by steamer to Shanghai, arriving there in May 1927. On this botanical and zoological expedition, he collected 20,000 herbarium specimens in addition to the many packets of propagative material, and 1,000 skins of birds, although the latter collection was a secondary task.

In 1927 after a short rest in the United States the National Geographic Society appointed him to direct their Southwest China Expedition, a three year task. By May 1928 he was in Yung-ning, home of the Hli-khin (Mo-so) tribe, and then in Mu-li, Szechuan Province, before exploring and collecting on the 14,000 and 17,000 ft. levels of the Konka Risumgongba Range. The winter was spent in Nv-lv-k'o, Yün-nan, where he explored the eastern slopes of the Li-chiang Snow Range. In the spring he returned to Mu-li to explore and map the Minya Konka Range. During the late summer and fall he was in the valleys and ranges of the great river trenches of Asia: the Yalung, Mekong, Salwin, and Yangtze Rivers. There some of the canyon walls were over two miles above the rivers. He returned to Nv-lv-k'o for the winter of 1929-30, continuing the survey of the eastern slopes of the Li-chiang Snow Range. Along with the thousands of plant specimens and seeds collected, he sent 1,700 birds to the U. S. National Museum.

In 1930 Rock returned to the United States for a short visit and was sent back to China for two years, this time by the Harvard Museum of Comparative Zoology. During this period he faced many difficulties for the country was filled with bandits. Again with his Na-khi assistants, he explored the Mekong and Salwin valleys and the Irrawaddy headwaters, collecting 1,800 skins of birds. The University of California Botanical Garden undertook Rock's research in 1932-33. Again he collected thousands

of seeds and herbarium specimens from western China, including species of Rhododendron, Potentilla, Berberis, Meconopsis, and Primula, which were distributed by the University to many other botanical gardens, including the Royal Botanic Garden at Edinburgh.

Many times during these different expeditions Rock was thought to be "lost." As Honorary Collaboratory for the U. S. National Museum, his research encompassed ethnology, botany, and zoology. He was also Collaborator with the Harvard-Yenching Institute and Agricultural Advisor to the Provincial Government of Yun-nan. This portion of his life is vividly depicted in a series of ten highly pictorial articles which he contributed to the National Geographic Magazine (1922-35).

On his way to Europe in 1933, he told Honolulu newspaper reporters that he now considered himself "too old" for exploration and living in the wilds, for it was a month's journey to the nearest physician. However, after spending the holidays in Vienna, he went back to China in 1934 via the United States and Hawaii. The exploration portion of his life was now behind him and he continued, on his own, his studies of the Na-khi peoples which he had begun two years before. For nearly 12 years he studied and translated religious texts of the Na-khi tribe of northeast Yun-nan Province. He had agents scouring China for rare classics and texts. In 1935 because of the conflict between the Chinese Nationalists and Communists he evacuated his library to Indo-China, returned it to Kunming, and had to repeat this the following year for the same reasons. Many times during this period at the urging of his friends he thought of returning to Hawaii because of the political unrest in China. During 1938-40 he held the position of Research Professor in Chinese Culture at the University of Hawaii. In 1938 the Japanese bombed Kunming and for the third time he sent his library to Indo-China. Except for a brief period in Europe, he was almost continuously in Dalat, South Annam from 1938 until 1940, when he directed the U. S. National Museum's ornithological expedition to Annam and Cambodia. In 1941, the Japanese bombing of Shanghai destroyed the plates of a four volume work in the process of printing. By this time he had published six articles and two books about the Na-khi people.

His research was further interrupted by World War II. In 1944 he was evacuated by place to the United States, becoming Expert Consultant and Geographic Specialist and later, until 1945, Research Analyst for the U. S. Army Map Service in Washington, D. C. As the only authority of that region, he prepared maps of western China for military use. The Minya Konka Range which he had mapped and explored for the National Geographic Society in 1929 was the route which American pilots flew between India and Chungking, China.

The culmination of twelve years of research was lost when the ship carrying his manuscripts from Calcutta to the United States was sunk by Japanese torpedoes in the Arabian Sea. All that was left were three photostated volumes which Walter Swingle of the U. S. D. A. had insisted be deposited in the Library of Congress in 1934. At this time he was offered a Research Associate position at the University of Hawaii but chose instead to return to China to continue his research.

As Research Fellow of the Harvard-Yenching Institute from 1945 to 1950, he was finally able to return to China at the end of 1946. He again resided in Li-chiang to continue his translations of the pictographic and syllabic scripts of the Na-khi tribe. In 1948 he was forced to go to Boston for a brief period because of illness. In May 1949 a band of 4,000 bandits threatened to capture Li-chiang and he was forced to flee to Kunming and the Na-khi Dto-mba, who was assisting Rock with his translations, fled to his home. When the bandits were defeated a month later, he returned to Li-chiang by plane and was greeted by an army with machine guns leveled at him. There he found that the day before his arrival, the town had been taken over by Communists. After they searched his possessions for arms, they left. He was told by the villagers that Americans were no longer wanted in China. The Na-khi Dto-mba

did not return for fear of reprisals. Rock remained in Li-chiang for a month. After being proclaimed as one of the public enemies by the Communists, he was finally forced to leave his beloved China forever.

He went to Rome to confer with Professor Guiseppe Tucci, President of the Italian Institute of the Middle and Far East about continuing his work. The Institute undertook publication of several of his volumes in their Oriental Series. He spent the next two years between England and India, still with the hope of being able to return to China.

During and after his residence in China, he collected and translated key volumes of over 8,000 books of the original literature of the Na-khi tribe, wrote many articles and books about the Na-khi, and took the first natural color photographs of the Tibetan borderland regions. He introduced into the Western World 493 species of Rhododendron, more than had been previously known in America. Plants were distributed by his sponsoring institutions and planted in the Golden Gate State Park in San Francisco, the University of California Botanical Garden, the Puget Sound Area, the eastern coast of the United States, Canada, the Arnold Arboretum, Kew Gardens, and the Royal Botanic Gardens at Edinburgh. He also introduced blight-resistant chestnuts from China which were widely distributed by the USDA in the hopes of restoring this plant to the American forests. During one trip he collected 6,000 chestnut plants. He also brought back many conifer seeds, including spruce, fir, hemlock, pine, and juniper, as well as hundreds of flowering plants. His thousands of herbarium specimens and birds and scores of mammals were deposited in the U. S. National Museum, Arnold Arboretum, and the Harvard Museum of Comparative Zoology. Portions of his plant collections were sent to European herbaria for determinations and duplicates are found there and in other American institutions.

His valuable Oriental library, once at the University of Hawaii, and at different times in storage or in transit, was eventually purchased by the University of Washington for $25,000. Because of his outstanding contributions to the knowledge of western China through his numerous publications, he was appointed permanent Honorary Research Associate at the University of Washington's Far East & Russian Institute in 1954.

Increased interest in the establishment of a botanical garden in Hawaii eventually returned him to his beloved Hawaiian Islands. For a time he made his headquarters with his contemporary, Dr. Harold L. Lyon, Director Emeritus of the HSPA Experiment Station. During his visit in 1953, he had prints made of Hillebrand's types of Hawaiian plants. The following year he spent most of his time on the island of Maui. In 1955-56 he botanized on Kauai and Hawaii, and 1956-57 on Hawaii.

In December 1955 Dr. Rock was appointed Honorary Associate in Botany at the Bernice P. Bishop Museum and later published four papers on new species discovered, mainly in the Lobeliaceae. All of the Hawaiian specimens which he collected were deposited in the Bishop Museum, as well as his Hawaiian collection note books, photographs, and glass plates which he made 40 years ago. He, in turn, was given a copy of his own out-of-print book, The Indigenous Trees of the Hawaiian Islands, for he had none at this time.

During these later years he confined most of his botanizing to the "roadside" category, taking advantage of the jeep roads built during World War II. He found that it was now easy to visit areas formerly inaccessible. He discovered that many of the species with which he was familiar over 35 years ago had vanished to extinction, remaining only as "dried corpses in the herbaria." Even though he had been absent for a long period from Hawaii, he still knew the plants and where they grew.

Rock was considered by many to be the "Father of Hawaiian Botany," whereas his predecessor, Hillebrand, was the "Grandfather." His plant collections were prolific, for he collected everywhere and extensively in the Hawaiian native forests. Duplicate specimens are at Arnold Arboretum, Gray Herbarium, New York Botanical

Garden, U. S. National Museum, and other herbaria. He described hundreds of new species and varieties in his 56 publications resulting from his Hawaiian residence. He was considered the specialist of Hawaiian Pritchardia, Lobeliaceae, and other native plant groups. To his Hawaiian intimates he was known as Pohaku, the Hawaiian word for Rock.

His linguistic ability was outstanding. German was his native language, but as a youth he had learned Hungarian from his grandmother, and Chinese at the age of 15 by self-study. He had taught Arabic at the age of 16 at the Vienna University. He was fluent in Italian, French, Spanish, Tibetan, Latin, Greek, and the various languages of the aboriginal peoples of West China. He had a reading knowledge and comprehension of Japanese, Hindi, and Sanskrit. When he visited countries such as Iceland, he was able to quickly comprehend the language and converse with the people. He spoke English without a Germanic accent.

Dr. Rock was a member of many organizations and received many awards. In 1930 Vienna University in Austria and Baylor University in Waco, Texas, awarded him Doctor of Laws degrees, and in April 1962 the University of Hawaii honored him with a Doctor of Science degree, honoris causa. He was awarded the Gold Medal by the Royal Horticultural Society at the 200th anniversary celebration at Kew Gardens; the Stanislaus Julien Award of the Institut des Belles Lettres by the Academie Francaise, Paris, in 1948; and the Gold Medal by the American Rhododendron Society in 1954. He was honorary life member of the National Geographic Society (1925), Harvard Travellers Club, Rhododendron Association (London), and the North American Lily Society; fellow of the American Geographical Society, Royal Geographical Society (London), and Royal Asiatic Society of Bengal; corresponding member of the L'Ecole Francaise d'Extreme Orient, Hanoi (1938); member of the Royal Asiatic Society of North China, Botanical Society of America, Torrey Botanical Club, West China Border Research Society, Washington Biological Society, American Primrose Society, California Horticultural Society, Seattle Rhododendron Society, and the Alpine Garden Society. In Hawaii he was honorary member of the Hawaiian Botanical Society, Friends of Foster Garden, and Hawaiian Botanical Gardens Foundation, Inc., and Honorary Chairman of the University of Hawaii's Campus Beautification and Landscaping Faculty Committee (1962-63). One of the University's campus drives is named Rock Road. He was listed in Who's Who in America for thirty years and in the American Men of Science. In 1909 Forbes was the first to name a new species in Rock's honor, and today many hundreds of plants and birds bear the specific name of Rockii. In 1913 Anton Heimrl established the genus Rockia, with one species, R. sandwicensis (Family Nyctaginaceae). This was done to distinguish Rock as a collector and because he collected the first, best, and sometimes the only specimen of the newly described taxon.

Shortly before his death he was in Europe classifying Na-khi manuscripts. His two volume dictionary of the language is now in press, finally completed, in spite of years of difficulties caused by forced evacuations, bandits and communists, war, bombing, inflation, cholera and other illnesses, and the loss of his manuscripts. This dictionary is the culmination of his long years of exhaustive and painstaking research of a culture almost entirely vanished from the rapidly changing scene of Asia.

He had suffered a heart ailment for several years and moved to Hawaii for health reasons once more. He was stricken with a heart attack shortly after arising on December 5, 1962, at the home of Mr. and Mrs. A. Lester Marks in upper Nuuanu Valley, Honolulu. He had made his home with them since 1957. His greenhouses there were filled with native and exotic plants, including Hawaiian Lobelioids which he had grown from seed. Some of the Hawaiian plants are for future planting on the Bishop Museum grounds. This year he donated 80 species of plants to the University of Hawaii, adding further to the original campus tropical botanical garden which he founded 50 years ago.

Although for 40 years his interests lay mainly in western China, he confessed to the writer last year that he would be delighted if anyone brought him a Hawaiian Lobelioid. This was indicated by the last botanical paper published before his death, entitled Hawaiian Lobelioids (B. P. Bishop Museum Occasional Papers XXIII(5): 64-75, August 17, 1962). That his heart still lay in Botany was confirmed by his presence at the Hawaiian Botanical Society lecture (co-sponsored with the Friends of Foster Garden, Hawaiian Academy of Science, and Hawaiian Botanical Gardens Foundation, Inc.), "Plant Collecting in the Andes," just two days before his death. This expert on plant collecting in Hawaii and China had planned to make a botany trip to the island of Hawaii two weeks later.

Pohaku was laid to rest with the plants he loved on December 10th, one week after his last public appearance, in Nuuanu Valley's Oahu Cemetery.

1/ Acknowledgements: The writer is grateful to Mrs. A. Lester (Loy) Marks for her valuable informational and editorial assistance in the preparation of this paper. Thanks for assistance are also extended to Miss Janet Bell of the University of Hawaii Library and to Dr. Roland W. Force, E. H. Bryan, Jr., and Miss Margaret Titcomb of the Bernice P. Bishop Museum.

2/ U. S. Department of Agriculture, Bernice P. Bishop Museum, and University of Hawaii, Honolulu, Hawaii.

INVENTORY OF ROCK'S COLLECTIONS: The Editor is in the process of compiling the location of Rock's collections of plants, mammals, and birds, and of his botanical and ethnological manuscripts. Any information (amount, source, dates of collection or compilation, etc.) would be appreciated. This inventory will be published at a later date when all information has been received from the various institutions concerned.

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[3/] Compiled by Alvin K. Chock, E. H. Bryan, Jr., and Mrs. Loy Marks.

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A HERBARIUM

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J. F. C. Rock

(Editor's Note: The following report of the Herbarium of the College of Hawaii was published as part of the report of the Department of General Science, in the "Report of Board of Regents to the Legislature of 1913," pp. 21-24 (College Records No. 9, Feb. 1913). Rock's report also included a synopsis of his book, "Indigenous Trees of the Hawaiian Islands," which was published later that same year.)

Among the facilities of the department the herbarium occupies a place of great importance, but one that requires some explanation in view of possible misconception. An herbarium is a systematically arranged collection of authentically named dried plants, and is highly essential for instruction and research. It is somewhat of the nature of a museum, a laboratory and a library. As a collection or assemblage of plant material it resembles the museum. It might be included in the laboratory as an essential apparatus without which systematic work on plants is impossible, and as illustrated literature it is a kind of library extremely useful for reference.

It is in the first place necessary that the herbarium should contain authentically named specimens, as it is not always possible to recognize plants by the brief descriptions which are sometimes published in various languages. Illustrative material is absolutely necessary to determine the plants of one's own environment and to be able to recognize species new to science. The determination of plant species is by no means the sole factor in botanical work, but is of subsidiary importance. An herbarium may be consulted for a particular specimen, the name of which may be known beforehand in order to compare its structure with other forms, or to ascertain the relationship of an unknown plant.

The herbarium may be compared to a great illustrated volume, to the pages of which the botanist refers daily in quest of information. The administration of such an herbarium may be paralleled in the management of an office, as that of registry of deeds.

The herbarium of the College is not extended indefinitely beyond the border lands of the Pacific, but comprises only such Floras as are closely related with the Flora of these Islands. Only in a few cases it was found necessary to have Floras, such as of Mauritius and other islands having an insular Flora, for of island Floras botanists distinguish two kinds, 'insular' and 'continental' Floras.

As research in Hawaii is not limited to certain fields of systematic botany, as forest trees, but also is extended to grasses and pulces, it was found necessary to make the herbarium general in its scope, and it was desired that it should contain all the lower Cryptogams, as well as Phanerogams, for purposes of instruction and in order to give a general conspectus of the plants of these Islands. An herbarium should be looked upon, not as a show piece or an accomplished task, but as a growing and working mechanism that will return daily a large interest by way of instruction and research upon the capital invested in its establishment and maintenance.

The major portion of this herbarium is that which came to the College as a loan for an indefinite period from the Bureau (sic) of Agriculture and Forestry.

It being an impossibility to conduct such work without facilities for publication, it therefore may not be out of place to make a few general remarks regarding such. The dissemination of knowledge about plants is the very essence of botanical research activity. Unless the results of research are made known to the scientific world through some precise announcement, they are of no value whatsoever.

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A H E R B A R I U M (Continued from page 14)

It is indeed of the greatest importance and advantage for an establishment of this kind to control its own publication to the extent of at least one or two bulletins, thus giving it the opportunity to express freely its individuality. I therefore recommend and urge this College to find means whereby we will be enabled to publish at least one series of bulletins, which shall appear whenever there is material on hand, either scientific or popular. By the freedom of exchange such contributions form the most useful and practical medium of communication between different institutions of the world, and will help to promote and advertise, as well as make the world acquainted with the work accomplished by the College in question. (The College of Hawaii's Bulletin series, first published in 1911, was inaugurated with one of Rock's papers. -- Ed.).

(The following is a resume of Rock's Indigenous Trees of the Hawaiian Islands, which was in press at the time of the report -- Ed.).

The book deals exclusively with the native trees; that is, such as were originally found here by the first white men, leaving out all the trees found about town, as they are of more or less recent introduction.

It was the writer's idea to present to the public a book which would give information on trees strictly Hawaiian in both technical and popular language. Many times the writer heard the remark: 'But are there any native trees?' Yes, there are over three hundred, and what is still more interesting, over 80% (over 94% now. -- Ed.) of them are not known from any other part of the world, but are peculiar to this small group of islands. The book contains such information as cannot be found in other works on the subject. Most of these works are exceedingly technical and very expensive, and contain only fragments of Hawaiian botany, the rest being descriptions of plants from other parts of the world. There are a few lists of plants, such as were published by Horace Mann and Heller, but these are only for the use of experts. The best work on the Hawaiian flora was published by Dr. W. Hillebrand, in 1888, well known to the kamaainas. It also is extremely technical and without illustrations, save one showing the middle forest zone on Hawaii.

The book about to be issued contains 214 full-page illustrations, all of them excellent half tones made by the Commercial Art Co., of San Francisco. Owing to the great cost of the illustrations it was impossible to have each species of tree figured, and so the more important ones which the traveler might meet in the forests of the various islands are illustrated. Most of the trees are figured three times, showing the general aspect of the tree, the trunk showing bark characteristics, and the third a flowering and fruiting branch of the tree from live specimens. The descriptions are technical, giving also complete references to each species; accompanied by a popular description with all the native and common names, the uses of the tree, its legends, whether used in religious ceremonies, medicinal properties, etc., or other interesting features (sic) connected with the tree. Then follows a complete description of its habitat, and where it can be found in the various islands of the group.

The introduction to the book covers about 90 pages, giving a detailed description of all the floral regions and much ecological data. These pages are illustrated by 27 half tones, showing the various typical forest zones on all the islands from sea level to nearly 14,000 feet elevation.

The writer hopes that the volume will be of some use to all those who are interested in this highly specialized flora of ours, and will help the novice to learn to know the trees of Hawaii nei of which the old Hawaiians possessed a thorough knowledge.

AN ANECDOTE CONCERNING JOSEPH F. ROCK

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E. H. Bryan, Jr.[4/]

In September 1919, my senior year at the College of Hawaii, I registered for a course in systematic botany, which was to be taught by Mr. Rock. Being the only student in the class, formalities were forgotten and I became a sort of laboratory assistant, helping him sort specimens, look up references, mount plants and keep his small work room in order.

Mr. Rock had a remarkable memory for detail. Because there were few cabinets, book shelves and other working facilities, herbarium sheets and books were in piles all over the room. However, Mr. Rock knew where everything was. A particular specimen of Plantago princeps from the bog on the summit of Mt. Eeke, Maui, was the fifth from the top in the pile under the table in the corner. He gave the librarian strict instructions not to rearrange the books when she came in to take inventory; if she did, he wouldn't be able to find what he needed.

My diary entries indicate the intimate relationship between professor and student. October 27, 1919: "With Mr. Rock to hear Mr. Judd's talk on forestry." Another day, "Planned a monograph on Pittosporum." Another, "Copied Latin and German descriptions from publications in Bishop Library," where I spent my afternoons and Saturdays. I can trace the whole sequence in the preparation of the revision of the genus Plantago.

Mr. Rock was as temperamental as a prima donna. If he were singing snatches of grand opera in French, German, or Italian when he arrived in the morning, the day would be a pleasant one. He was an excellent photographer. In making pictures of herbarium specimens he used a very slow emulsion plate. He would cut down the diaphragm, open the shutter, and walk off to attend to other matters; in a minute or so he would return, announce to himself that the shutter had been open long enough and close it. The result almost always was excellent.

The feeling that Mr. Rock was not happy with his position at the College of Hawaii became very apparent. On November 26, 1919, my diary records our completion of the paper on Plantago and "he says he is going to leave." Our method of work was for Mr. Rock to dictate the description of a species or variety---his Latin was as fluent as his English---hand me a pile of specimens and reference books and say, "Now you put it in good form." In this way I learned much about systematic botany.

Anticipating that he was leaving the College of Hawaii and his extensive collection of plant specimens, Mr. Rock decided that we should put the herbarium in good order. To do this, he instructed me to write out a list of all the plant families represented in Hawaii in their systematic order. When this was done, we took up one family after another; assembled all of the specimens and went over each critically; I wrote on the data and identification as Mr. Rock dictated it to me. It took the balance of the school year, from December to May. During Christmas vacation I continued this work, receiving 25 cents an hour, which was the current wage for student assistants. While Mr. Rock made a collecting trip to Kauai, during January 1920, I kept on with the work; and upon his return, I mounted the specimens he had collected. My diary records that he was off to Molokai on February 17; and also to Hawaii in March. There is the record that we were describing "palms" on March 26, and shortly after that that he took the completed paper on Pritchardia over to Dr. H. E. Gregory at the Bishop Museum. As a special reward, he took me to dinner at the Young Hotel.

[4/]Curator of Collections and Manager, Pacific Scientific Information Center, B. P. Bishop Museum, Honolulu 17, Hawaii.

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AN ANECDOTE CONCERNING JOSEPH F. ROCK (Continued from page 16)

Our final job, after we finished arranging and naming the Compositae, in April, was to make a map of the University campus and record on it a number for every specimen of ornamental plant, listing the scientific name as dictated by Mr. Rock.

On May 25, 1920, he departed for San Francisco on his way to Harvard, and a new pattern of scientific activity, after having made such a valuable contribution to the knowledge of the botany of the Hawaiian Islands.

It was some years after Mr. Rock's departure before any member of the Botany Department took any interest in the herbarium. The wooden cabinets in which the specimens were housed were not entirely insect tight and many specimens became badly infested. After some little discussion and legislation, the Rock collection was transferred to the Bishop Museum herbarium on June 17, 1922, and again I had the task of going over the specimens and exterminating the little beetles and psocids. The task brought back happy memories of a unique and interesting course in systematic botany.

ROCK'S "FRATERNITY"---Many new species were described in J. F. Rock's botanical papers published in 1957 and 1962. Some of the names of the new species complement the following botanical collectors who collected the type specimens: Mrs. A. Lester (Loy) Marks, George McEldowney, L. William Bryan, Albert W. Duvel, A. Lester Marks, Alvin K. Chock, Norman Carlson, Paul R. Weissich, and Thomas W. Lindsey. Many of these assisted Rock on his collecting trips on the other islands.

PRITCHARDIA AT THE FOSTER BOTANICAL GARDEN---One of the projects at the Foster Botanical Garden is the cultivation of Pritchardia. The loulu palm project was under the guidance of Dr. J. F. Rock. When he returned to Hawaii in 1957, he, Paul Weissich, and others began collecting seeds of the species which were not present in the Garden. These collections resulted in some 20 different species and several varieties, which are now growing in the Garden with able assistance from Collin Potter. The project of securing more seeds (this is the only palm genus with endemic Hawaiian species) is being continued by the Garden Director, Mr. Weissich.

N E W M E M B E R S

The following were elected to Society membership at the December meeting: Drs. Duane B. Moore and Peter P. Rotar, Department of Agronomy and Soil Science, University of Hawaii; Dr. George W. Gillett, Turku University (after Sept. 1963: Department of Botany, University of Hawaii); Dr. Jacques F. Barrau, South Pacific Commission; Noel L. H. Krauss, State Department of Agriculture; and Dr. Warren H. Wagner, Jr., Department of Botany, University of Michigan.

The total number of names presented by the Membership Committee in 1962 is now 51. Sixteen were from the PQD, ARS, U.S. Department of Agriculture; 14 from the University of Hawaii; 9, Experiment Station, HSPA; three each, B. P. Bishop Museum and State Department of Agriculture; and one each, State Department of Health, U. S. Forest Service, Punahou School, University of Michigan, Turku University, and South Pacific Commission. The total number of members as of December 1962 is 197. (The January-November 1962 membership figures were given on page 3 of the December 1962 issue.)

FOSTER BOTANICAL GARDEN

Paul C. Hutchinson, Senior Botanist, University of California Botanical Garden, was here last month for ten days. He served as consultant on the Lyon Botanical Garden project in Koko Crater upon the invitation of the Friends of Foster Garden. Mr. Hutchinson presented a preliminary report on the city's botanical gardens system to the Board of Trustees. Further amplification of his recommendations will be made by him at a later date if it is necessary. Mr. Hutchinson has had over 15 years of experience in botanical garden work and administration. He was the speaker at the Society's December meeting.

BOTANICAL NOTES

Dr. Horace F. Clay, Associate Professor of Horticulture, University of Hawaii, will present a lecture entitled, "Hawaiian Plants---Then and Now," on Wednesday, January 23, at 7:30 p.m. This is one of the series of 75th Anniversary Lectures of the Kamehameha Schools, and will be held at the Kam Schools Auditorium.

Dr. Harold St. John, Professor Emeritus of Botany, University of Hawaii, and Botanist, Bernice P. Bishop Museum, sends the following summary of 1962 activities: "Africa was so facinating that we did not get to Italy until mid-February 1962. Field collecting of Pandanus ended; then began the study of museum specimens in Firenze, Geneva, Zurich, Muenchen, Wien, Berlin, Copenhagen, Stockholm, Lund, Uppsala, and Gotheborg. Our Volkswagen enabled us to see far more of Europe than we did in 1935 and 1950.

"At Muenchen, due to a stroke, Betty spent two months in the excellent university hospital. Her recovery proceeds steadily. Thus, we have decided we can go to Egypt for six months, where I will teach botanical nomenclature. From February to June 1963 our address will be: Botany Department, Faculty of Science, Cairo University, Giza, U. A. R.

"After June 1963 our address will be Istituto Botanico, Via Lamaroma 4, Firenze, Italia."

Volume I of the New Zealand Journal of Botany will appear this year. It is published by the Publications Office, Department of Scientific and Industrial Research, Box 8018, Wellington, New Zealand. The annual subscription is £ 1, 10 s.

UNIVERSITY OF HAWAII

FACULTY COMMITTEES (1962-63):

ARBORETUM---Dr. Horace F. Clay (Chairman), Director of the H. L. Lyon Arboretum, and Dept. of Hort.; Hugh W. Brodie, HSPA; Dr. Isa Degener; Dr. Donald P. Gowing, Asst. Dir., PRI; Dr. Richard A. Hamilton, Hort.; Robert L. Hind, Jr., Regent and Mgr., Keauhou Ranch (Kona); Robert H. Hughes, Regent and Dept. Head, Hawn. Comm. & Sugar Co., Ltd. (Puunene); Dr. Charles H. Lamoureux, Chairman, Dept. Botany; Dr. A. J. Mangelsdorf, Genetics, HSPA; Henry H. Shigekane; Morris S. Shinsato, Regent and Attorney, Lihue; W. M. Wachter, Admin. Vice-Pres.; Paul R. Weissich, Dir., Foster Bot. Gard.; and Dr. Willard Wilson, Provost.

CAMPUS BEAUTIFICATION AND LANDSCAPING---Dr. Joseph F. Rock (Honorary Chairman), Hon. Assoc. in Bot., Bishop Museum (Note: Dr. Rock died on December 5, 1962); Dr. Charles H. Lamoureux (Chairman), Bot.; Dr. Horance F. Clay, Hort.; James C. Hubbard, CES; Dr. Jimmie B. Smith, Chairman, Dept. Genetics; and Paul R. Weissich, Foster Bot. Gard.

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U N I V E R S I T Y O F H A W A I I (Continued from page 18)

FACULTY COMMITTEES (1962-63):

COLLEGE OF TROPICAL AGRICULTURE PUBLICATIONS---Dr. Estel H. Cobb (Chairman), Animal Sci.; Dr. Bruce J. Cooil (2nd semester), Botany & Plant Phys.; Mrs. Gertrude P. Harrell, CES; Dr. Silas L. McHenry, Poultry Sci.; Dr. Toshiyuki Nishida (1st semester), Ento.; Dr. Perry F. Philipp, Ag. Econ.; and Dr. Goro Uehara, Soils.

NUCLEAR SCIENCE COMMITTEE---Dr. James L. Brewbaker, Hort., and Dr. Maxwell S. Doty, Bot. (Co-Chairmen); Raymond M. Chang, Physics; Dr. Robert L. Fox, Soils; Dr. Sidney C. Hsiao, Zoo.; Dr. John J. Naughton, Chem.; and Dr. Sidney J. Townsley, Marine Zoo.

Dr. Cooil is also member of the RESEARCH COMMITTEE; Dr. Doty, of the HAWAII MARINE LABORATORY ADVISORY BOARD and the ADVISORY COMMITTEE TO ASSIST WITH PLANNING OF NEW FACILITIES FOR COCONUT ISLAND; and Dr. Leonard D. Tuthill, Asst. Dean, Graduate School, and Asst. Dir. of Research is Chairman of the GRADUATE SCHOOL COUNCIL.

BOTANY SEMINAR (Botany 610): Every Thursday at 1:10 p.m., 203 Dean Hall. Jan. 10---George Fogg, "An analysis of variation between Pinus edulis and P. cembroides; Jan. 17---Dr. James A. Lockhart, "Water relations of plants." For further information contact Dr. George Hollenberg.

PLANT PHYSIOLOGY & HORTICULTURE SEMINAR (Botany 675 & Horticulture 667): Every Tuesday at noon, 301 Keller Hall (bring your sack lunch). Jan. 8---T. Bezuneh, "Kinetin structure and activity," and F. Aquilizan, "Inhibitors and seed germination"; Jan. 15---J. Kunisaki, "Growth inhibitors in plant competition," and Mrs. P. Pages, "Inhibitors of auxin oxidase." For further information, contact Dr. A. Carl Leopold.

CITRICULTURE SEMINAR (Horticulture 711): Every Monday at 1:00 p.m., Henke Hall Conference Room. Jan. 7---Dr. H. M. Mouat and Dr. J. Cameron, "Survey of minor element disorders and fungus diseases of Citrus"; Jan. 14---Dr. J. W. Cameron, "Citrus virus indexing procedures"; Jan. 21---Dr. R. A. Hamilton, "Citrus rootstock practices in Hawaii." For further information, contact Dr. Robert M. Warner.

Dr. Charles H. Lamoureux spent six days on Midway last month, collecting in all areas of the atoll (both Eastern and Sand Islands). He made observations about various aspects of the atoll's natural history, and plans publication of his research results in the near future.

Dr. Maxwell S. Doty attended the annual meeting of the Western Society of Naturalists at San Jose State College. He also participated in the National Science Foundation Institute conferences, sponsored by the Hawaii Marine Laboratory, which is seeking ways to cooperatively improve marine science instruction in non-oceanographic institutions in the Western States. The Institute last year distributed over 1200 copies of a directory of institutions teaching marine sciences in the Western States and will probably issue a second edition this year.

B O T A N I C A L V I S I T O R S

Dr. Wataru Ishijima of Rikkyo University, Tokyo, was a visitor on the University of Hawaii campus. While actually a paleontologist, he is an internationally recognized authority on the builders of Pacific atoll rims, the coralline algae.

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BOTANICAL VISITORS (Continued from page 19)

Dr. Jacques F. Barrau made a two-day stopover in Honolulu from Guam where he had conferred about the economic development and plant introduction programs with the Guam Department of Agriculture. Dr. Barrau is Executive Officer for Economic Development, South Pacific Commission, Noumea, New Caledonia, and joined the Society last month. In Hawaii he conferred with personnel at the B. P. Bishop Museum, University of Hawaii, and Bureau of Commercial Fisheries, Hawaii Area (U.S. Fish & Wildlife Service) about the needs of the economic development program of the South Pacific Commission. He left for Tahiti on November 29 and will visit the Atoll Coconut Experiment Station in Rangiroa in the Tuamotus. The station is supported by the S.P.C. and operated by the French Oceanic Institute.

Dr. Bryan Womersley participated in the U. H. botany faculty luncheon. He was returning to Australia via Tokyo on the S. S. Himalaya after nine months on the mainland. He did research at the University of Minnesota (three months), University of British Columbia (two months), and Friday Harbor (six weeks). At the latter he taught, and also made visits to other institutions on the mainland. Dr. Womersley, Reader in Botany, University of Adelaide, Adelaide, Australia, was the Society's speaker in February 1962.

HAWAIIAN SUGAR PLANTERS' ASSOCIATION

The 82nd Annual Meeting of the Hawaiian Sugar Planters' Association was held in Agee Hall, HSPA Experiment Station, from December 4 to 6. Sessions on the opening day included the President's Report by Mr. C. C. Cadagan (President, Alexander & Baldwin, Inc.) and address by Senator Henry M. Jackson (Washington), and an Executive Session. The sessions on the last two days were reports of the Experiment Station staff on results for the year 1962. These included a digest by the Director, Dr. Leonard D. Baver, and reports on sugar technology, pest control, sugar cane varieties, irrigation, plant physiology, and fertilization.

The Sugar Research and Marketing Advisory Committee for the U.S.D.A. visited Hawaii on December 15-17. This committee is composed of representatives from all aspects (research, production, refining, and marketing) for the United States, both cane and beet. Areas represented included Puerto Rico, Louisiana, California, Mid-West, North-West, Western, and Hawaii. In addition to eight visits on plantations and experiment substations, the committee listened to reports from all the Experiment Station departments. Dr. L. D. Baver, Experiment Station (HSPA) Director, is Chairman of this committee. Dr. James L. Lankford, USDA, is the Executive Secretary.

RECENT PUBLICATIONS

(Items listed in this section are included in the botanical bibliography files of the Pacific Scientific Information Center, Bernice P. Bishop Museum, Honolulu 17, Hawaii.)

BROWNLIE, G. (Oct.) 1962. Geographical relationships of New Zealand fern flora. Pac. Sci. XVI(4): 363-365.

GILBERT, W. J. (Mar.) 1961. Pseudobryopsis oahuensis in Hawaii. Phycologia 1(1): 32-36, 2 figs.

(Continued on page 21)

R E C E N T P U B L I C A T I O N S (Continued from page 20)

GILBERT, WILLIAM J. (Oct.) 1961. Codium phasmaticum Setchell in Hawaii. Trans. Amer. Micros. Soc. LXXX(4): 433-434, 1 fig.

_____. (Jan.) 1962. Contribution to the marine Chlorophyta of Hawaii, I. Pac. Sci. XVI(1): 135-144, 8 figs.

HAWAII. DIVISION OF FORESTRY, DEPT. OF LAND & NATURAL RESOURCES. (Jan.) 1962. A multiple use program for the state forest lands of Hawaii. 50 pp., illus., map, tabs.

JACKSON, R. C. (Coordinator). (Oct.) 1962. A. S. P. T. index of current taxonomic research no. 1, 28 pp. (mimeo.) Amer. Soc. of Plant Taxonomists (c/o Dept. of Botany, Univ. of Kansas, Lawrence, Kansas).

MALCOLM, F. B. (July) 1961. Quality evaluation of Hawaiian timber. For. Prod. Lab. Rep. 2226: 27 pp., 14 figs., 4 tabs.

NELSON, ROBERT E. 1961. Forestry potentials in Hawaii. A conservation challenge--an economic opportunity. Pac. SW For. & Range Exp. Sta. (mimeo.), 4 pp. (consv. symposium, 10th PSC).

_____. 1962. Forest products harvested in Hawaii: 1958 and 1960. Pac. SW For. & Range Exp. Sta. misc. pap. 71: 3 pp. (mimeo).

PICKFORD, GERALD D. 1962. Opportunities for timber production in Hawaii. Pac. SW For. & Range Exp. Sta. misc. pap. 67: 11 pp., illus.

ST. JOHN, HAROLD. (Oct.) 1962. Revision of the genus Pandanus Stickman, Part 13. Pandanus in the Northern Territory, Australia. Pac. Sci. XVI(4): 409-428, figs. 139B-149.

SKOLMEN, R. G. 1962. Treating costs and durability tests of Hawaii-grown wood posts treated by double-diffusion. Pac. SW For. & Range Exp. Sta. res. note 198.

_____, & HARVEY H. SMITH. 1962. Drying of silk-oak in Hawaii. Pac. SW For. & Range Exp. Sta. tech. pap. 65: 12 pp., 4 figs., 3 tabs.

STONE, BENJAMIN C. (Oct.) 1962. Studies in Hawaiian Rutaceae, II. Identity of Pelea sandwicensis. Pac. Sci. XVI(4): 366-373, 2 figs.

VAN STEENIS, C. G. G. J. (Oct.) 1962. The mountain flora of the Malaysian tropics. Endeavour XXI(83-84): 183-193, 4 figs., 4 pls.

WARNER, JOHN N. (Oct.) 1962. Sugar cane: an indigenous Papuan cultigen. Ethnology 1(4): 4-5-411. (HSPA jour. 115).

D I R E C T O R Y C H A N G E S

1) Additions:

BARRAU, DR. JACQUES F. South Pacific Commission, Noumea, New Caledonia; Anse Vata, Noumea, New Caledonia; tel. (res.) 34-47; Executive Officer for Economic Development, S. P. C.; Economic botany and ethnobotany of the Pacific Islands (Revision of the New Caledonian Dioscoreaceae).

(Continued on page 22)

D I R E C T O R Y C H A N G E S (Continued from page 21)

1) Additions:

GILLETT, DR. GEORGE W. (until Aug. 1963:) Botany Department, Turku University, Turku, Finland; (after Aug. 1963) Department of Botany, University of Hawaii, Honolulu 14, Hawaii; tel. (bus. after Aug. '63) 992-051, ext. 369; Associate Professor of Botany, UH; Biosystematics of flowering plants, cytogenetics, flora of volcanic regions (experimental study of variation in Phacelia (Hydrophyllaceae).).

KRAUSS, NOEL L. H. 2347 Parker Place, Honolulu 14, Hawaii; State Department of Agriculture, Honolulu 14; tel. (res.) 984-304, (bus.) 92-071; Entomologist (Exploratory), State Dept. Agric.; Biological control of insects, snails, and weeds, and flora and fauna of the Pacific Islands (Biological control of Lantana, Myrica faya, wild blackberry, puncture vine, hunting billbug, etc.).

MOORE, DR. DUANE G. Department of Agronomy & Soil Science, University of Hawaii, Honolulu 14, Hawaii; 839 Kaipii Street, Kailua; tel. (bus.) 992-051, ext. 549, (res.) 251-940; Assistant Professor of Soils, UH; Mineral nutrition and its effects on plant ecology---primarily micronutrients (HAES projects on sulfur, copper and molybdenum, and herbicides).

ROTAR, DR. PETER P. Department of Agronomy & Soil Science, University of Hawaii, Honolulu 14, Hawaii; 204 Kaha Street, Kailua.

WAGNER, DR. WARREN H., JR. Department of Botany, University of Michigan, Ann Arbor, Michigan; 721 Mount Pleasant Avenue, Ann Arbor; Tel. (bus.) 66-3-1511, ext. 2786, (res.) 66-3-2963; Professor of Botany and Curator of Pteridophytes, Herbarium, U.M.; Vascular plant evolution, Pteridophytes of Hawaii (NSF proj. G-10846, the phylogenetic characters of Filicineae, which includes work on Hawaiian ferns.).

2) Changes:

MENEZ, ERNANI G. Department of Biology and Botany, University of British Columbia, Vancouver, B. C. Graduate student, UBC.

3) Deletions:

ROCK, DR. JOSEPH F. (Honorary Member). - deceased.

H A W A I I A N B O T A N I C A L S O C I E T Y
c/o Department of Botany, University of Hawaii, Honolulu 14, Hawaii

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Membership Committee: Dr. Louis G. Nickell (Plant Phys. & Biochem., HSPA), chairman; Mr. Kalfred Yee (Garden City, Inc.) and Dr. James Brewbaker (Department Hort., U. H.)

E D I T O R I A L S T A F F

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The Hawaiian Botanical Society Newsletter is published monthly, except during the summer months of July, August and September. It is distributed to all Society members and other interested individuals and institutions, with the purpose of informing them about botanical news and progress in Hawaii and the Pacific. News contributions and articles are welcomed. The deadline for submission of news items is the 20th of each month prior to publication.

E D I T O R ' S N O T E S

J. F. ROCK---One of Hawaii's pioneer botanists died earlier last month. A biography and other information are contained in this issue, which is dedicated to his memory. A memorial fund has been established by the East-West Center, University of Hawaii. Individuals desiring to contribute to the J. F. Rock Memorial Fund should contact Dr. Alexander Spoehr (Chancellor) or his secretary. Checks should be made payable to the East-West Center. A committee, representing the different botanical and horticulturial organizations and institutions in Hawaii, is in the process of being formed to administer and select the use of this Fund. (AKC)

MASTHEAD DESIGN: With the Newsletter becoming a permanent part of the Hawaiian Botanical Society, it was felt that Volume II and subsequent volumes deserved a more attractive masthead. A new one was also necessary because the supply used for Volume I was exhausted. The symbol selected for the masthead and stationary is Lobelia gloria-montis, a species described by Rock in his 1919 monograph of the Lobelioids. Thanks are extended to Dr. Otto Degener for permission to use the drawing in Flora Hawaiiensis as the design. (AKC & MSD)

MOILIILI BEAUTIFICATION: The Moiliili Business and Professional Association is to be commended for their encouraging the City & County of Honolulu to provide the potted Melaleuca leucadendron. These plants are found along King Street in the Moiliili shopping district makai of the University. It is our understanding that Mansfield Claflin, actually made the final selection of this tree, and that this implementation of Paul Weissich's plan to increase the use of trees along Honolulu's streets is being put into effect. The Botanical Society hopes that other cities in Hawaii will initiate tree planting programs whenever possible. (MSD)

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HAWAIIAN BOTANICAL SOCIETY

MEETING

TIME: Monday, January 7, 1963 - 7:30 p. m.

PLACE: Agee Hall, Experiment Station of the Hawaiian Sugar Planters' Association, 1527 Keeaumoku Street, Honolulu.

SUBJECT: "The Natural History of Midway Atoll." (illustrated)

SPEAKER: Dr. Charles H. Lamoureux, Assistant Professor of Botany and Chairman, Department of Botany, University of Hawaii. He is the society's retiring president (1962) and a 1963 member of the Executive Committee. He will present his Presidential Address this month because it was postponed in order to give members an opportunity to hear Mr. Paul C. Hutchinson last month. Dr. Lamoureux was on Midway last month, and visited other Leeward Islands in late summer 1961. Some of his 1961 observations were published in Atoll Research Bulletin.

DUES NOTICE - 1963

The membership dues for the 1963 calendar year are payable on or before the first meeting (Jan. 7) of the year. Please remit the sum of two dollars ($2.00) to the Treasurer (Mr. William M. Bush, Castle & Cooke, Inc., P. O. Box 2990, Honolulu 2, Hawaii). Membership dues include receipt of the HAWAIIAN BOTANICAL SOCIETY NEWSLETTER.

* * *

Membership applications and information may be obtained by writing to the Chairman of the Membership Committee, Dr. Louis G. Nickell, HSPA Experiment Station, 1527 Keeaumoku Street, Honolulu 14, Hawaii.

HAWAIIAN BOTANICAL SOCIETY
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